NAVAL AIR STATION FALLON, NEVADA
NATURAL RESOURCES CONSERVATION – LARGE INSTALLATION
FY 2015-2016

BACKGROUND:

NAS Fallon administers approximately 241,000 acres of land located in the high desert region of northern Nevada. The station includes the NAS Fallon Main Station and Fallon Range Training Complex (FRTC). NAS Fallon and the FRTC are the Navy's premier aviation training range supporting air and ground units in integrated strike warfare training that reinforces present and emerging National Defense requirements. The mission of NAS Fallon is to contribute to all phases of Naval Aviation and Naval Special Warfare training from basic, intermediate and advanced levels. Naval forces achieve their highest combat readiness at Fallon, typically 90 days prior to deployment. Over 1,400 military and civilians provide the most realistic training available for carrier air wings, consisting of more than 60 aircraft and associated support crews of 1,000 to 1,500 personnel. Military personnel from the Navy, Air Force, Marine Corps, and Nevada Air National Guard all train at NAS Fallon.

The Main Station consists of 8,670 acres and is surrounded by the airfield buffer zone of which is 3,000 acres that is leased out for farming in the Agriculture Outlease Program and 3,865 acres of rangeland vegetation. The remaining land area is the FRTC that features four noncontiguous air-to-ground training ranges (B-16, B-17, B-19 and B-20), and an electronic warfare range, the Dixie Valley Training Area (DVTA). While B-16 is only 15 miles from the Main Station, the other training areas range from 40 to 90 miles away, with long distances of dirt roads to and within these ranges. Approximately 96,000 acres of the FRTC are open to the public and are used for outdoor recreation. Recreational opportunities on these lands include activities such as hiking, bird watching, photography, hunting, fishing, and horse-back riding. Limited off-highway vehicle (OHV) use is allowed under joint Bureau of Land Management (BLM)/Navy management in Dixie Valley.

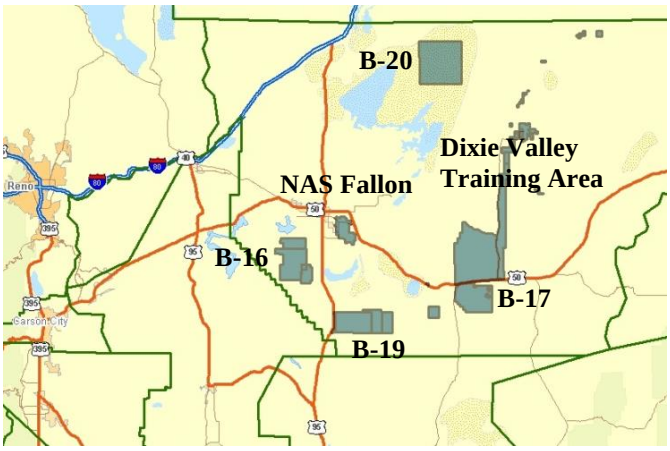


Fig 1: Map of NAS Fallon and its Training Ranges

The Navy expends great effort both monetarily and with manpower to maintain and enhance its valuable resource areas for the benefit of all species, to continue its mission, and provide a public resource. NAS Fallon has worked consistently at restoration projects, specifically in the DVTA, to continually maintain and improve this distinctive habitat. Dixie Valley is an area of approximately 68,000 acres in size and is utilized for combat search and rescue training with opposing forces, land navigation training, OHV use and other training while being open to the public. A biologically diverse area, Dixie Valley has old farm settlements, 10 stock ponds that are managed for wildlife, flowing artesian wells that provide wetland habitats, hot and cold springs that have formed the Dixie Meadows Marsh, and Horse Creek, which is at

the foothills of the Clan Alpine Mountains with a perennial mountain spring. The Dixie Valley area is an important range for wildlife, most notable being the Dixie Valley tui chub that populates three of the 10 ponds, and the indigenous Dixie Valley toad, found only in the Dixie Meadows Marsh. Dixie Valley is home to a great variety of native wildlife such as Pronghorn, Desert bighorn sheep, a variety of bat species, and many migratory birds. Resource management projects include deepening ponds, removal of excessive plant growth, repairing levees, improving access, correcting drainage issues, repairing and maintaining wells, and treatment of invasive species.

Photo 1: Pronghorn, *Antilocapra Americana*, in Dixie Valley. –Photo by Gary Cottle.

The Navy works in cooperation with natural resource agencies such as the Nevada Department of Wildlife (NDOW), the BLM, and U.S. Fish and Wildlife Service (USFWS). NDOW monitors wildlife populations and works with the Navy in developing and implementing projects that benefit the habitat for sensitive species, which in turn benefits many other species. BLM is a partner that has overall authority of the withdrawn lands and they in turn work with grazing permittee's that have grazing allotments throughout Navy lands. USFWS ensures that developers of geothermal energy exploration are aware of the sensitive species in the area and makes comments to that effect for all Environmental Assessments. More importantly is the strong internal relationships between the commands at NAS Fallon. Public Works and the Environmental Division work closely with the Range Office, Federal Fire Department (Fed Fire), Explosive Ordinance Disposal (EOD), and Search and Rescue to name a few. The open and continuous communication between the different commands has enabled the Environmental Division Natural Resource staff to more effectively manage the NAS Fallon lands. With the eyes and ears of the various commands that visit the ranges, the Natural Resources staffs are able to enhance and better manage the lands under NAS Fallon.

NAS Fallon uses Environmental Management System (EMS) to integrate environmental considerations into the day-to-day operations across all levels and functions. Training modules developed by Environmental personnel are specific to NAS Fallon and are administered via the Environmental Compliance, Assessment, and Training Tracking System (ECATTS). During the achievement period for this award 1,182 military, civilian, and contractor personnel were trained in General Environmental Awareness and Natural Resources. Environmental also provides INDOC training to all incoming military personnel on a monthly basis. We provide maps and brochures of surrounding areas to explore and frequently coordinate with USFWS on various outdoor educational activities for people of all ages.

NASF also performs many other miscellaneous duties throughout the year as needed including Bird/Animal Strike Hazard planning, Pest Management throughout the installation, oversight of the grounds maintenance contractor, and environmental education outreach to the

military, their families, and the community at large. The staff spends a great deal of time reviewing all projects large and small, and providing input to ensure construction and all types of other projects utilize sound practices that minimize or eliminate environmental impacts. We also make sure to review and provide comments to projects by outside entities that have potential to impact our area of influence, particularly energy development projects that approach our boundaries.

SUMMARY OF ACCOMPLISHMENTS

NAS Fallon is proud of the following highlights from our Natural Resource Program during FY2015 and FY16:

* Outstanding communication inside and outside the NASF organization.
* Restoration of wetlands in Dixie Meadows from unauthorized road construction,
* Cold Springs Pond drainage to eradicate invasive species habitat,

Outstanding Communication Inside and Outside the NASF Organization:

Good communication between the two Natural Resource Specialists, Public Works, departments and tenant commands, and contractors is the foundation to the successful NAS Fallon Natural Resource Program. NAS Fallon's professionally trained Natural Resource Specialists attend various project planning meetings to keep "in the know" early in the planning process and throughout the duration of projects. Proactive coordination enables Natural Resources to balance the many aspects of their job duties and utilize each member's strengths to accomplish the mission. As a result of this successful collaboration, the Natural Resource team has received recognition for their determined efforts. Anna Keyzers was named the NAVFAC SW Excellence Award Environmental Employee of the Year in 2012 and NAS Fallon earned the CNO Environmental Award for Natural Resources Conservation-Large Installation in 2004, 2006, 2008, 2012, and Natural Resource Conservation-Team in 2013. Natural Resource staff applied for and was awarded National Environmental Education Foundation Department of Defense Legacy Awards for two restoration projects; Dixie Valley Range Land Restoration in 2012 and Veteran's Memorial Park Garden in 2013.

Photo 2: Pond before and after the removal of non-native invasive Russian olive trees. -Photos by Gary Cottle.

Natural Resources staff actively participates in local meetings with County, University, NDOW, USFWS, etc. relating to invasive weeds management strategies, water use issues, climate change and to coordinate actions and plan future projects. Meetings with our partners provide opportunities to fine tune future goals and to evaluate current needs and effectiveness of past years efforts. Most recently in spring of 2016, we coordinated with NDOW and Nevada Bighorn Unlimited and developed three water catchment projects. These water collection projects benefit wildlife during the ever more frequent periods of prolonged drought by collecting, storing, and providing a continuous water source. The NAS Fallon ranges have some of the largest and healthiest herds of desert bighorn sheep in the Great Basin of Nevada. Likewise, pronghorn herd numbers have been increasing. The strong big game population numbers have resulted in increased number of hunting permits, more successful hunts, improved revenue for the NDOW, and intensified hunter interest.

Photo 3: Desert bighorn, *Odocoilus canidensis*, in Dixie Valley. –Photo by Gary Cottle.

Photo 4: NAS Fallon, NDOW and Bighorn Unlimited enhanced the water holding capacity from a couple hundred to over a thousand gallons of water in a remote location of B-17. –Photo by Anna Keyzers

The Natural Resource staffs either oversee or actively participate in several community events, such as Earth Day, Spring Wings Bird Festival, National Recycling Day, and National Public Lands Day. These various events refocus our public outreach efforts every year to reach out to children, military families, co-workers, and the local community, including local Boy Scout troops. The more that people know what the Navy does for the local environment, know what the local resource issues are, and know the importance of the resources, the easier it will be to continue to accomplish goals and support the mission.

Cold Springs Pond-Invasive Species Eradication:

Cold Springs Pond is an example of the Navy's integrated relationships working together to solve problems. Cold Springs Pond is an old stock pond just south of the Dixie Meadows Marsh. This pond is infested with carp and bullfrogs; both nonnative invasive species. Moreover, the bullfrogs have tested positive for the amphibian disease, Batrachochytrium dendrobatidis (Bd). Currently, the Dixie Valley toad is free of Bd. In order to reduce the possible spread of the disease to the toads, NDOW suggested breaching the pond levee to eliminate habitat for the bullfrogs and carp. The Navy did not have funds readily available to pursue the project in the near term. Instead the Natural Resource staff brainstormed other options. Both EOD and the Fed Fire have assisted Environmental with past projects so they were approached to see if they could help move this project forward. Fed Fire was approached to reduce the overgrowth of plant material and EOD was asked to breech the levee. Both commands used the experience as training opportunities. The breech of the levee has reduced the depth of the water, which in turn has allowed natural vegetation to begin infilling the pond. Since the summer of 2015, sedge growth has reduced the pond area by 48%. A project such as the Cold Springs Pond project that utilized innovative partnerships with Fed Fire and EOD contributed to a successful project and an estimated $20,000 in cost savings, plus a unique training opportunity for two commands.

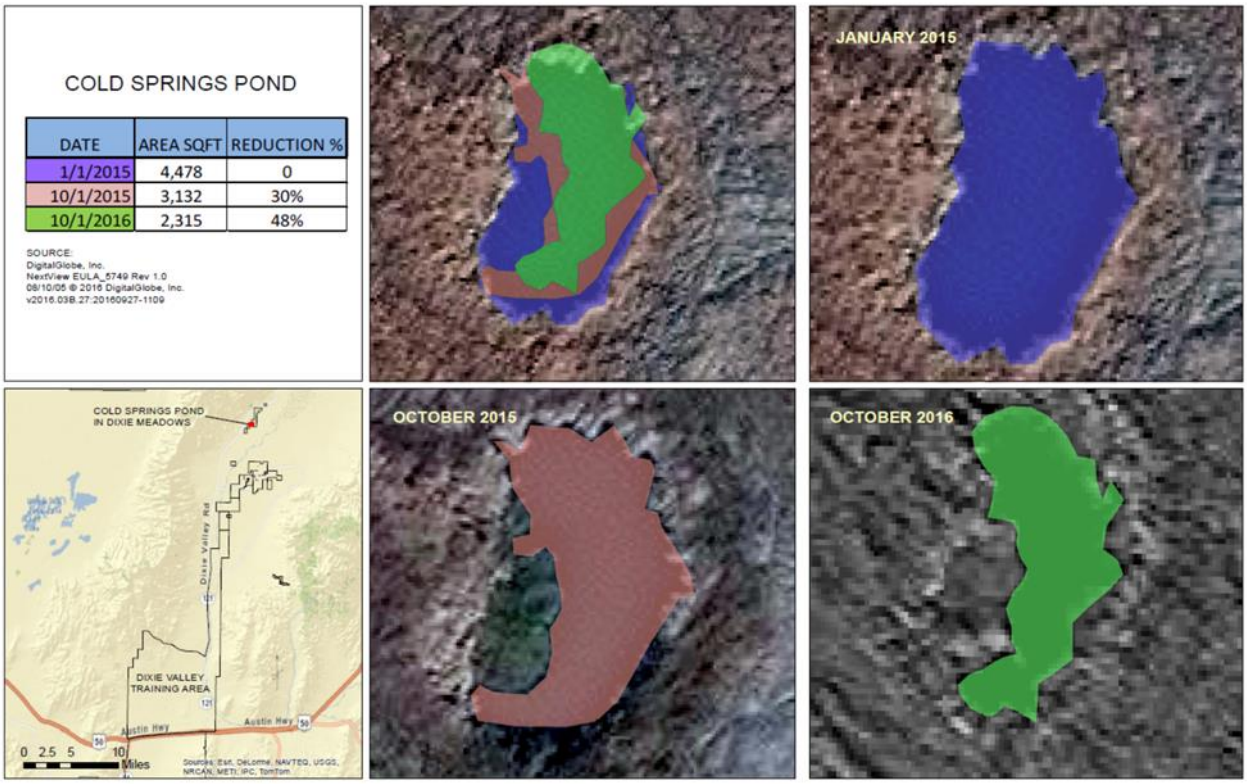


Fig 2: Digital imagery showing the decreasing size of Cold Springs

Habitat Restoration-Road Removal:

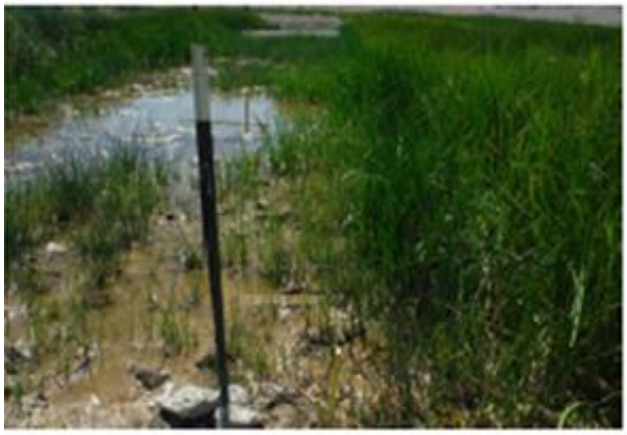
In order to access posts supporting the transmission line of an area needing repair, a private company (PC) with an easement through Navy land, removed the Navy's fence and constructed a road six tenths of a mile long through the heart of the Dixie Meadows Marsh. The

PC also constructed three 80 by 100 foot pads and dug trenches in an effort to move the water that was naturally emanating from several hot springs on the west side. The hot springs normal flow from west to east provided critical marsh habitat for the endemic Dixie Valley toad. Significant here was the fact the PC did not contact or inform the Navy prior to the undertaking.

Photo 5: Road and trenches constructed at the Dixie Meadows Marsh. –Photo by Anna Keyzers

Internally, NAS Fallon Environmental and the Public Works Officer worked with NAVFAC SW Legal in order to present a complete analysis of the situation, and determine the Navy's responsibilities and legal options, then present them to the NAS Fallon Commanding Officer for decision. The Navy informed the PC that they had exceeded the terms of their easement and were told to remove and restore the site in March 2015. This effort required continuous consultation with the PC, with support from NDOW to develop a work plan that would remove the road and restore the proper water flow without causing further damage to the wetlands or damage the substrate. In October 2015, the PC de-energized the power line and removed the road. Almost immediately, the water began to move across where the road once was. Removing the obstruction (road) and restoring the natural flows ensures the long term success of the Dixie Valley toad and ensures that the Navy will not have future liabilities and encumbrances due to the unknown effects of a road that interrupts flow and impacts the water level and temperature of the toad's critical habitat.

April 2016 – Plot Establishment



August 2016

Photo 6: The Dixie Meadows Marsh after road removal. –Photo by Melissa Wendt.

Furthermore, the Navy negotiated three years of monitoring that includes water level and temperature monitoring, and ensuring native vegetative success, while certifying invasive weeds do not get a foot hold. The Navy's dedication to protecting the habitats under its purveyance, its resolve in seeking solutions to solve problems, and its skills in cooperative relationships resulted in untold long term benefits to the Navy's mission and natural resource conservation.

These many cooperative efforts bear testimony to the outstanding supportive and mutually beneficial relationship that the NAS Fallon has with its Integrated Natural Resource Plan stakeholders, fellow departments and tenant commands, and the community of Fallon. As good stewards of the lands in the Great Basin ecoregion, NAS Fallon is committed to the protection of the natural resources on Navy-administered lands in order to facilitate military training, ensure there is no net loss in training areas, and ensures the resources are available for future generations.